

# Early intervention for toddlers with autism highly effective, study finds

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A novel early intervention program for very young children with autism - some as young as 18 months - is effective for improving IQ, language ability, and social interaction, a comprehensive new study has found.

"This is the first controlled study of an intensive early intervention that is appropriate for [children](#) with autism who are less than 2½ years of age. Given that the American Academy of Pediatrics recommends that all 18- and 24-month-old children be screened for autism, it is crucial that we can offer parents effective therapies for children in this age range," said Geraldine Dawson, Ph.D., chief science officer of Autism Speaks and the study's lead author. "By starting as soon as the toddler is diagnosed, we hope to maximize the positive impact of the intervention."

The study, published online today in the journal *Pediatrics*, examined an intervention called the Early Start Denver Model, which combines applied behavioral analysis (ABA) teaching methods with developmental 'relationship-based' approaches. This approach was novel because it blended the rigor of ABA with play-based routines that focused on building a relationship with the child. While the youngest children in the study were 18 months old, the intervention is designed to be appropriate for children with autism as young as 12 months of age. Although previous studies have found that early intervention can be helpful for preschool-aged children, interventions for children who are toddlers are just now being tested. Autism is a lifelong [neurodevelopmental disorder](#) characterized by repetitive behaviors and impairment in verbal communication and [social interaction](#). It is reported to affect one in 100

children in the United States.

"Infant brains are quite malleable so with this therapy we're trying to capitalize on the potential of learning that an infant [brain](#) has in order to limit autism's deleterious effects, to help children lead better lives," said Sally Rogers, a professor of psychiatry and behavioral sciences, a study co-author and a researcher at the UC Davis MIND Institute in Sacramento, Calif. Rogers and Dawson developed the intervention.

The five-year study took place at the University of Washington (UW) in Seattle and was led by Dawson, then a professor of psychology and director of the university's Autism Center, in partnership with Rogers. It involved therapy for 48 diverse, 18- to 30-month-old children with autism and no other health problems. Milani Smith, who oversees the UW Autism Center's clinical programs, provided day-to-day oversight.

The children were separated into two groups, one that received 20 hours a week of the intervention - two two-hour sessions five days a week - from UW specialists. They also received five hours a week of parent-delivered therapy. Children in the second group were referred to community-based programs for therapy. Both groups' progress was monitored by UW researchers. At the beginning of the study there was no substantial difference in functioning between the two groups.

At the conclusion of the study, the IQs of the children in the intervention group had improved by an average of approximately 18 points, compared to a little more than four points in the comparison group. The intervention group also had a nearly 18-point improvement in receptive language (listening and understanding) compared to approximately 10 points in the comparison group. Seven of the children in the intervention group had enough improvement in overall skills to warrant a change in diagnosis from autism to the milder condition known as 'pervasive developmental disorder not otherwise specified,' or PDD-NOS. Only one

child in the community-based intervention group had an improved diagnosis.

"We believe that the ESDM group made much more progress because it involved carefully structured teaching and a relationship-based approach to learning with many, many learning opportunities embedded in the play," Rogers said.

"Parental involvement and use of these strategies at home during routine and daily activities are likely important ingredients of the success of the outcomes and their child's progress. The study strongly affirms the positive outcomes of early intervention and the need for the earliest possible start," Dawson said.

In this study, the intervention was provided in a toddler's natural environment (their home) and delivered by trained therapists and parents who received instruction and training as part of the model.

"Parents and therapists both carried out the intervention toward individualized goals for each child, and worked collaboratively to improve how the children were responding socially, playing with toys, and communicating," said Milani Smith, associate director of the UW Autism Center and a study co-author. "Parents are taught strategies for capturing their children's attention and promoting communication. By using these strategies throughout the day, the children were offered many opportunities to learn to interact with others."

Source: [Autism](#) Speaks

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